## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 20 October 2005 (20.10.2005)

PCT

## (10) International Publication Number WO 2005/097053 A1

(51) International Patent Classification7: A61F 13/00

A61K 7/20,

(21) International Application Number:

PCT/US2005/010941

(22) International Filing Date: 31 March 2005 (31.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

1 April 2004 (01.04.2004) 60/558,798 US

- (71) Applicant (for all designated States except US): GLAXO-SMITHKLINE [US/US]; 709 Swedeland Road, P.O. Box 1539, King of Prussia, PA 19406-0939 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): BUCH. R., Michael [US/US]; 1500 Littlejohn Road, Parsippany, NJ 07054-3884 (US). **GAMBOGI, Robert, J.** [US/US]; 26 Matrick Court, Hillsborough, NJ 08844 (US). VE-LADA, Jose [ES/GB]; St. George Avenue, Reybridge Surrey (GB).
- (74) Agent: RUGGEIRO, Charles, N., J.; Ohlandt Greeley, Ruggiero & Perle L.L.P, One Landmark Square, 10th Floor, Stamford, CT 06901-2682 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
  - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DISSOLVABLE TOOTH WHITENING STRIP

(57) Abstract: The present invention provides a dissolvable strip for whitening teeth. The strip, which is preferably a single layer, has a whitening agent and a water-soluble or water dispersible polymer system. The dissolution of the whitening composition is controlled by interaction of the whitening composition with an oral environment containing saliva. The present invention further provides a process for preparing the whitening strip in the form of a dry film and a method of whitening teeth.